

DESCRIPTION OF A NEW SPECIES OF *ARICHLIDON*
(CHRYSOPTALIDAE: POLYCHAETA) FROM THE
WEST ATLANTIC AND COMPARISON WITH THE
EAST ATLANTIC SPECIES *ARICHLIDON REYSSI*

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ABSTRACT

Arichlidon gathofi n. sp., comprising a cline of four closely related forms from four geographical locations down the West Atlantic coast of the Americas, based on the shape of their paleae, is described. This species is compared with the morphologically similar species *A. reyssi* (Katzmann, Laubier and Ramos, 1974) recorded from the East Atlantic coast and the Mediterranean. Variation of setal types within species is discussed and epitokous neurosetae are described in detail.

Chrysopetalid species belonging to this group have been recognized as problematical for some time with confusion between *Bhawania* and *Paleanotus* at the generic level. Gathof (in litt. 1982) recognized specimens from the Gulf of Mexico as belonging to a probable new chrysopetalid species and recorded it as *Paleanotus* sp. A (Gathof, 1984). Perkins (1985) recognized material from Florida waters as belonging to a new genus and species and in his key to the Chrysopetalidae referred specimens to *Bhawania reyssi* sic. Watson Russell (1983) recognized Western and Eastern Atlantic and Mediterranean specimens as belonging to the same new genus and referred to the West Atlantic material as “new genus new species 1” (Watson Russell, 1986, 1987, 1991).

Chrysopetalids belonging to this new genus were found by the author in Indo Pacific collections and a new chrysopetalid genus, *Arichlidon*, and two new species from Australia were described by Watson Russell in 1998. *Arichlidon hanneloreae* was recorded from tropical northeastern and northwestern Australian waters and the western Pacific from predominantly offshore coral reefs and atolls, and *Arichlidon acropetalon* from one deeper water site off northern Queensland. *Arichlidon reyssi* was redescribed from type specimens from the Adriatic and additional material from the Mediterranean (including material from abyssal depths of the Eastern Mediterranean) and the Cape Verde Islands, Eastern Atlantic.

MATERIALS AND METHODS

Setal terminology follows that of Watson Russell (1986, 1991). Material examined is in the following institutions: Florida Department of Marine Resources (FSBC); Hamburg Zoological Museum (HZM); National Museum of Natural History, Washington D.C. (USNM); Northern Territory Museum (NTM); Senckenberg Museum, Frankfurt (SMF); Zoological Museum of Amsterdam (ZMA).

SYSTEMATICS

Family Chrysopetalidae Ehlers, 1864

Arichlidon Watson Russell, 1998

Type species.—*Arichlidon hanneloreae* Watson Russell, 1998. Type by original designation.

Diagnosis.—Body relatively short, broad (Fig. 1C). Silver to pale golden colored paleal fans with scattered scale often forming brownish bands, across dorsum. Prostomium with two pairs violet-black eyes often fused, forming rectangular block visible beneath paleae of anterior segments. Segment 1 with two pairs of tentacular cirri; segment 2 with paleal notosetae, dorsal cirri, neurosetae, ventral cirri absent. Lateral paleae fascicle intergrades smoothly with symmetrical main paleae fascicle; distinctive group of asymmetrical ornate median paleae interlocking mid-dorsally forming smooth convex ridge. Dorsal surface of paleae types with granules and raised serrate ribs. Falcigerous inferior neurosetal blades short, broad, smooth to minutely serrate and curved with a blunt tip.

Habitat and Distribution.—*Arichlidon* species are found across a broad range of habitat types, from tropical to temperate waters between 40°N and 39°S in the Indian, Pacific and Atlantic Oceans, the Mediterranean and Red Sea. *Arichlidon* spp. are recorded from many crevicular habitat types some of which are associated with sessile invertebrate animals, e.g., tube dwelling polychaetes, tube dwelling amphipods and inside bivalve molluscs. It is possible that *Arichlidon* species are both scavengers and active predators on these invertebrates. They are found in seagrass, algal, sponge, hydroid and shell habitats, in crevices in coral and rocky reefs, rotting wood in mangrove channels, and from every grade of sand and mud substrate in warm shallow waters to the edge of the continental shelf and beyond to abyssal depths. Depth ranges from the intertidal to 3947 m.

KEY TO *ARICHLIDON* SPECIES

- 1a. Mid-body segments with lateral-most median palea the longest palea in fan 2
- 1b. Mid-body segments with lateral-most median palea not the longest palea in fan 3
- 2a. Main paleae with distinct broad shoulders, small elevated apices and granules
..... *A. reyssi* (Eastern Atlantic, Mediterranean, Red Sea)
- 2b. Main paleae with distinct rounded shoulders, large elevated apices, granules absent
..... *A. acropetalon* (North Queensland, Australia)
- 3a. Medial-most main palea (subunit 1) very broad, same height as main palea in mid-body segments, with 4–5 (3 major) raised ribs (Fig. 1D) *A. gathofi* n. sp. (Western Atlantic)
- 3b. Medial-most main palea broad, frequently tallest palea in fan in mid-body segments, with 5–6 raised ribs *A. hanneloreae* (Australia, Indo-West Pacific)

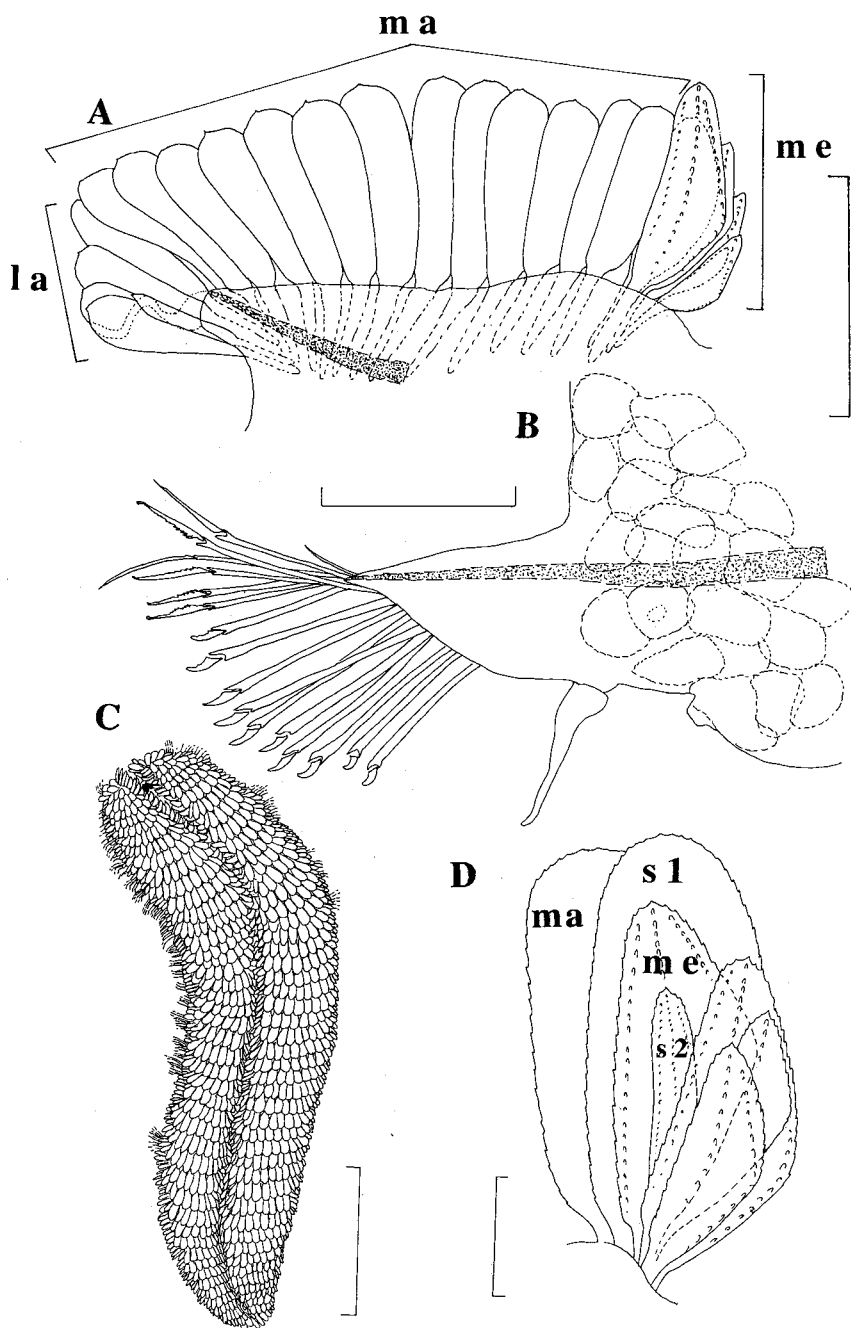


Figure 1. *Arichlidon reysyi*, Eastern Mediterranean, A–C. A, NTM W. 13180, notopodium 19 of 43 segment adult, anterior view; B, SMF 5006, neuropodium 19 of 42 segment female with mature ova; C, NTM W 13180, 43 segments, dorsal view; D, *Arichlidon gathofi* n. sp., Paratype, North Carolina, USNM 186017, notopodium 15 (in part, medial main and median paleae group) of 29 segment adult, anterior view. Abbreviations, la, lateral paleae; ma, main paleae, s1, subunit 1 palea, me, median paleae, s2, subunit 2 palea. Scales = 0.2 mm for A,B, 1.0 mm for C, 0.04 mm for D.

***Arichlidon gathofi* new species**
(Figs. 1D, 2, 3A–I, 4A–B, 5A–E)

Paleanotus sp. A, Gathof, 1984: 26–9, figs. 26–5, 26–6.

Bhawania reyesi sic Perkins, 1985: 863.

Type Material.—USA, off North Carolina, 34°35'N, 75°52'W, 45 m, coll. R/V ALBATROSS, sta. 2606, 18 Oct 1885: holotype, 27 segments, 2.1 mm length, 0.8 mm width, entire, ovigerous female, USNM 186016. Paratypes, 147 (40 juvenile), USNM 186017, 2, NTM W. 2555. Size range of paratypes: 6 setigers (7 segments), 0.5 mm length, 0.5 mm width; 25 setigers (26 segments), 2.1 mm length, 0.7 mm width; 29 setigers (30 segments), 2.4 mm length, 0.9 mm width.

Additional Material Examined.—Form 1. USA, North Carolina, off Beaufort, 34°36'N, 76°28'W, 2, USNM 51005; off Cape Lookout, sta. 4942, 4, USNM 186019; off South Carolina, 32°57'N, 79°17'W, 12 m, 1, USNM 59798; Florida, 30 mi. W. Sanibel Is., 26°24'N, 82°58'W, 37 m, plankton net, capture depth 36.3 m, 2, FSBC I 31881; 36 mi. W of Egmont Key, 27°37'N, 83°28'W, plankton net, 37 m, capture depth 36.3 m, 1, FSBC I 31880; 65 mi. W of Egmont Key, 27°37'N, 83°58'W, plankton net, 55 m, capture depth 54.3 m, 1, FSBC I 31882; Gulf of Mexico, off Florida, sta. 1719, 1, USNM 186021; 29°14'–18'N, 85°29'–32'W, sta. 2369–2374, 45–49 m, 26, USNM 186022; Florida, Panama City, 30°07'N, 85°52'W, 1, USNM 186023; 30°05'N, 86°03'W, 1, USNM 186024; 30°03'N, 86°08'W, 14, USNM 186025; Panama City, offshore 12 mi, sta. 4, 30 m, 18, USNM 186026; Greater Antilles, Bahamas, N Bimini, subtidal, 3, USNM 186027; N Bimini, LWM, 1, USNM 186028; Dominican Republic, Bahía de Mazanilla, sta. 20, 1, USNM 186029; Puerto Rico, sta. C, 7 m, 2, USNM 42755. Form 2. Eastern Mexico, Isla Cozumel, San Miquel, sta. 34–60, 9 m, 3, USNM 186031; Quintana Roo, Bahía Ascension, Nicchehabin Reef, 1–2 m, 1, USNM 186032; Nicchehabin Reef, sta. 91–60, 1, USNM 186033; Cuba, Isla de Pinos, Cay Matias, 6, NTM W.2591. Form 3. Lesser Antilles, Virgin Is., St. John, Francis Bay, sta. 3–58, 1, USNM 186034; Nevis, Charlestown, sta. 99–56, 7m, 2, USNM 186035; Charlestown, sta. 67–58, 5 m, 1, USNM 186036; Guadeloupe, SE of Pointe a Pitre, sta. 66–56, 18 m, 1, USNM 186037; Martinique, Baie de France, sta. 190, 3 m, 1, USNM 186038; St. Lucia, Marigot Bay, sta. 57–59, 2, USNM 186039; Barbados Is., St. James Parish, 1 m, 1, USNM 186040; St. James, 10 m, 3, USNM 186041; Holetown, half mile off, 100 m, 4, ZMA 1142; Grenadines, Carriacou Island, Tyrell Bay, sta. 15–56, 2, USNM 186042; Tobago Cays, West side of Baradal, sta. 24–56, 1 m, 1, USNM 186043; same locality, sta. 23–56, 1, USNM 186044; Bonaire, Kralendijk, tidal zone, 1, ZMA 1057; Klein Bonaire, east coast, tidal zone, 2, ZMA 1049; Curaçao, Piscadera Bay, 1.5 m, 1, ZMA 1029; same locality, 1, ZMA 1708; Curaçao, 1, HZM V.10384; South America, Venezuela, offshore Cubagua Island, 6 m, 1, USNM 186045; Surinam, 6°41'N, 55°31'W, sta. 276, 42 m, 1, USNM 186046; Form 4, Central America (Atlantic), Panama, Canal Zone, Galeta Island, low tide, 1, USNM 186047; same locality, sta. 18, 1, USNM 186048; same locality, 9°24'N, 79°52'W, 0.3m, 1, USNM 186049; Panama, Pico Feo, San Blas, sta. 93–3, 1, USNM 186050.

Description.—(Based on holotype with numerical data based on additional material in brackets.) Holotype with prostomium partly retracted within anterior segments. Subulate median antenna and two lateral antennae visible on anterior edge of prostomium; two pairs of violet-red eyes faintly visible below nuchal fold. Long oval palps present in ven-

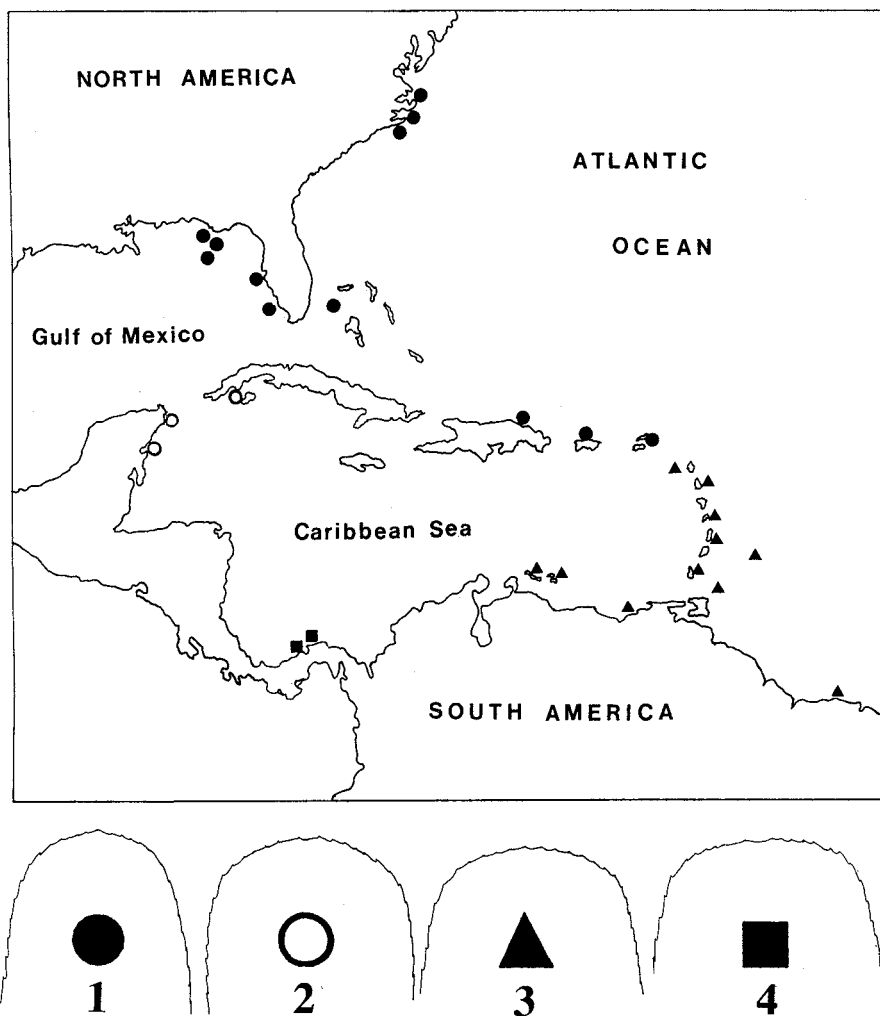


Figure 2. Distribution map of *Arichlidon gathofi* n.sp. *Arichlidon gathofi* n. sp. includes four forms that exhibit subtle change in the shape of the main paleae. Examples illustrated here: Form 1, North Carolina, Atlantic, sand and shell, 10 m; Form 2, Isla Cozumel, Eastern Mexico, 9 m; Form 3, Virgin Islands, Lesser Antilles; from rocks; Form 4, Galeta Island, Panama, Atlantic, *Avrainvillea* zone, low tide.

tral view. Triangular mouth flap posterior to palps; eversible proboscis with two transparent stylets. Notosetae of mid-body parapodium in three groups. Lateral group insert below notoaciculum; comprise 4–7 paleae with lower group with 7–13 ribs, upper group with 11–15 (17) ribs, medial-most lateral palea slightly more asymmetrical and rounded or squarish at tip (Fig. 3A). Main paleae group insert above notoaciculum; comprise 10–13 (18) paleae with 13–18 (20) ribs; main paleae subdivided into lateral group with 13–16 (18) ribs, middle group with 15–18 (20) ribs, medial group 14–18 (19) ribs, all with 5–7 raised ribs (Figs. 3A, 4A). Medial-most asymmetrical main palea (sub unit 1 palea) with 14–16 (19) ribs, 4 (5) raised ribs of which three are major; present in body from setiger 15 to 26 (Figs. 1D, 3B). Median paleae group insert at midbody line; comprise 4–6 (8) paleae

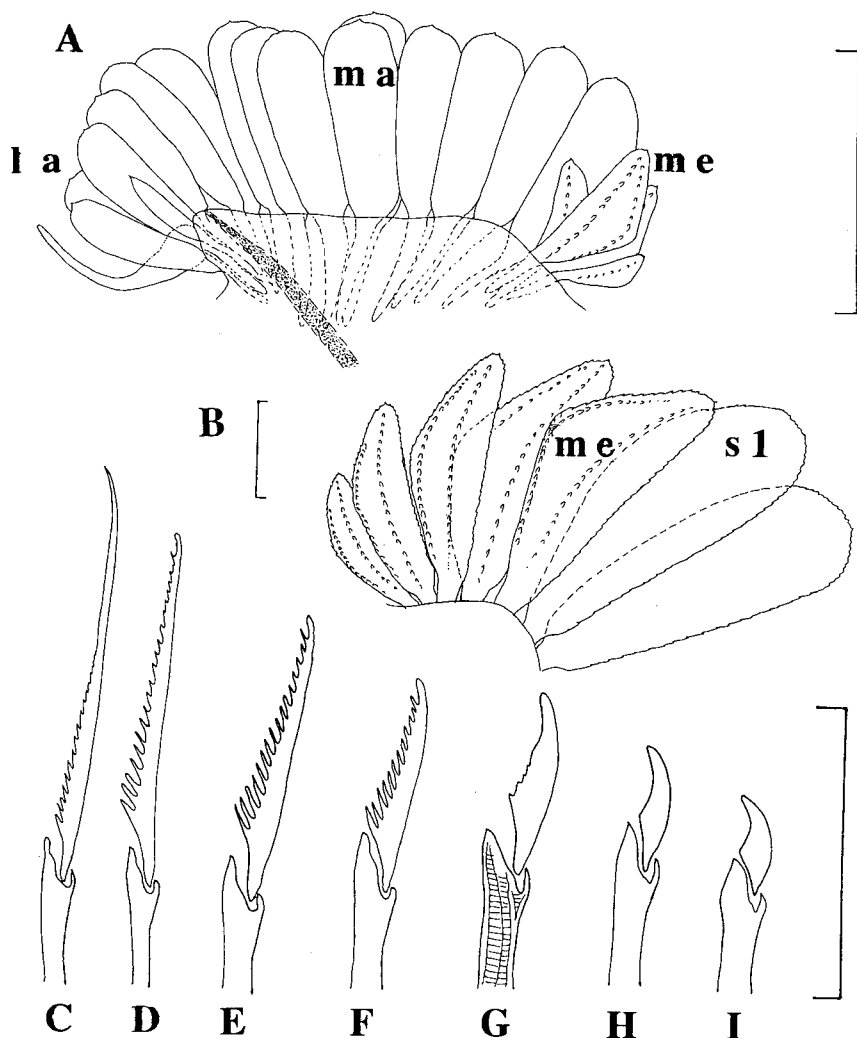


Figure 3. *Arichlidon gathofi* n. sp. A, Holotype, North Carolina, USNM 186016, notopodium 19 of 27 segment worm, anterior view; B, Florida, FSBC I31882, notopodium (in part) 14 of 25 segment worm, specimen from plankton, anterior view; C–I, Beaufort, North Carolina, USNM 186018, neurosetal types, neuropodium 19 of 29 segment worm, C, superior spiniger; D–E, mid-superior falcigers; F–G mid-inferior falcigers; H–I, inferior falcigers. Scales = 0.2 mm for A, 0.04 mm for B–I. Abbreviations as for Fig. 1.

consisting of larger, asymmetrical lateral group with 12–14 (16) ribs and smaller medial group with 8–13 ribs. Lateral-most median palea 2/3 length of main paleae (Figs. 1D, 3A–B, 5C), infrequently a similar length (Fig. 5D, E). Single, slim, symmetrical palea (sub unit 2 palea) member of median group, with 8–10 ribs, 3 finely raised ribs; present from setiger 10 to 26 (Figs. 1D, 5C); not always present in every fascicle and often difficult to see.

Main paleae shape distally rounded to broad with very shallow to slightly elevated apex; slight to moderately heavy, raised ornamented ribs not always extending full length

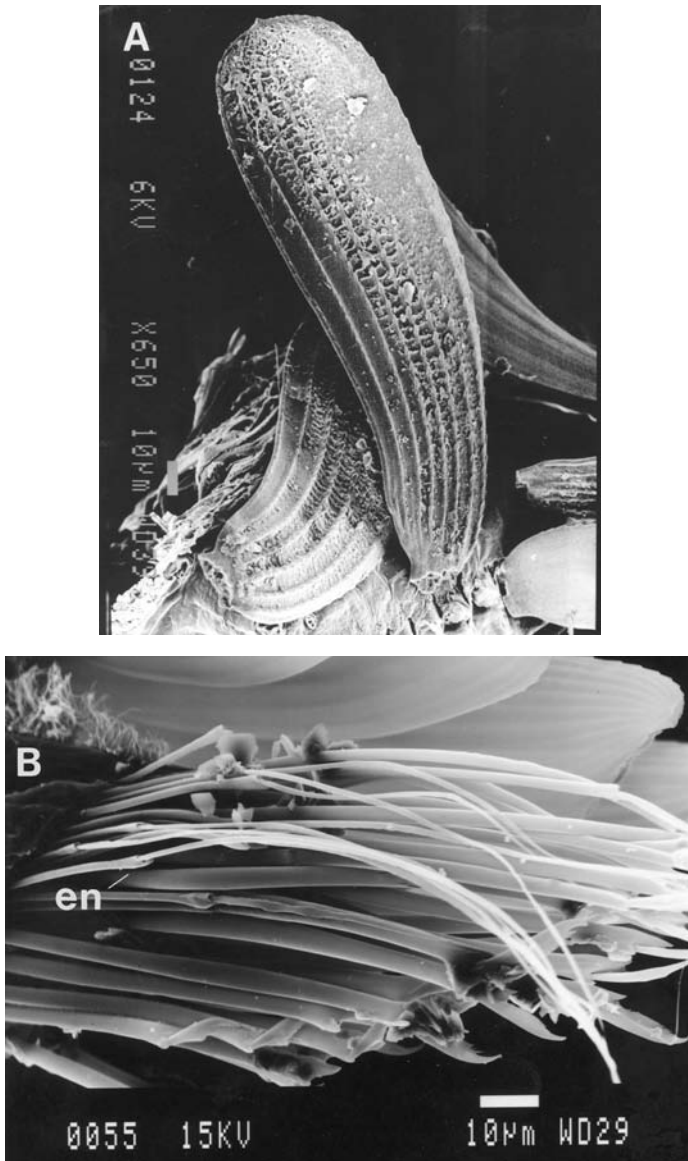


Figure 4. *Arichlidon gathofi* n. sp. A,B. Scanning electron micrographs, Isla Cozumel, Eastern Mexico, USNM 186031. A, 2 middle main paleae from notopodium 16, anterior view; B, neurosetae and epitokous neurosetae (en) from neuropodium 16, posterior view.

of palea; finely serrate margins. Median paleae with relatively broad, shallow apex and three raised, serrated ribs, the middle one most prominent. Moderately dense to sparse granular cover on lateral, main and median paleae; detrital scale often present (Fig. 4A).

Neurosetae of mid-body setigers composed of four groups. Superior spinigers number 1–2 (3); mid-superior group of 1–2 (3) upper long falcigers and 4 (5) lower falcigers with longer basal teeth on blades; mid-inferior group of about 10 (15) falcigers with shorter, finely serrate to smooth blades; inferior group up to 6 (10) short, smooth-bladed falcigers

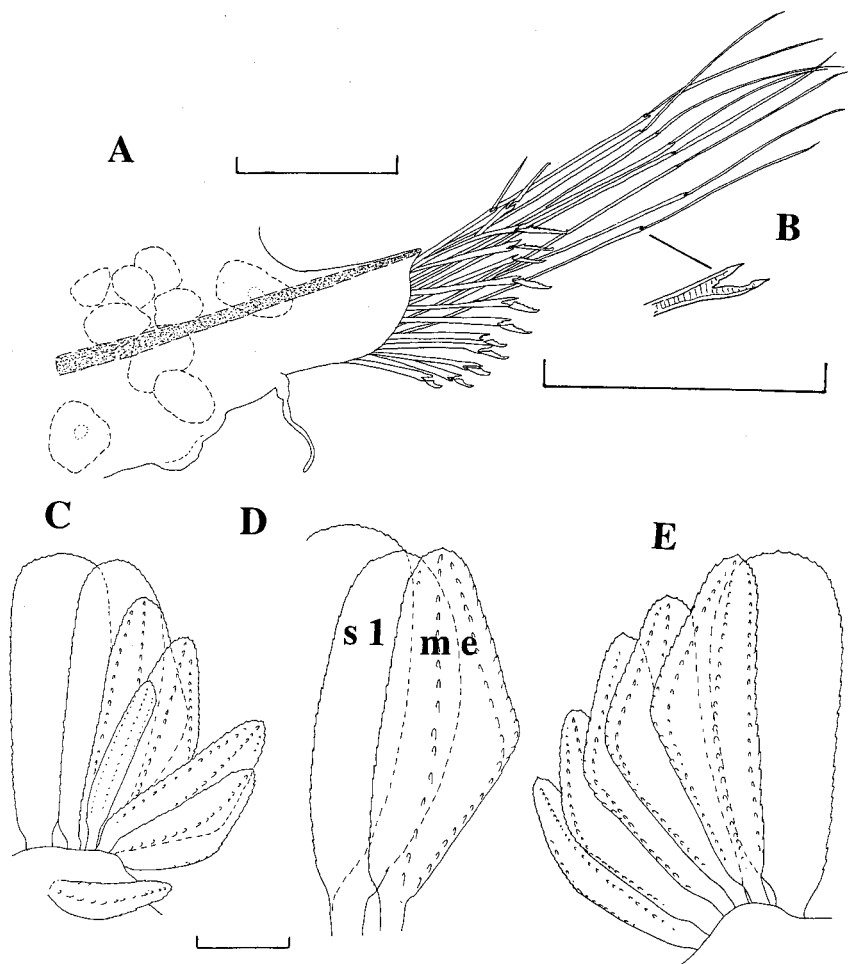


Figure 5. *Arichlidon gathofi* n. sp. A–E. A, Bonaire, Lesser Antilles, ZMA 1057, neuropodium 20 of 37 segment worm, epitokous benthic specimen, anterior view, B, same, detail of compound joint; C, St. Lucia, Lesser Antilles, USNM 186039, notopodium (in part) 17 of 35 segment worm, anterior view; D, Beaufort, North Carolina, USNM 186018, notopodium (in part) 20 of 30 segment worm, anterior view, benthic specimen with epitokous neurosetae; E, Galeta Island, Panama, USNM 186048, notopodium (in part) 19 of 42 segment worm, anterior view. Scales = 0.1 mm for A, 0.04 mm for B–E.

(Figs. 3C–I, 5A). Small simple seta overlying neuroaciculum in all neuropodia; short, slender spinger (subunit 1 neuroseta) in mid-superior position present in posterior five neuropodia.

Small ventral pygidial cone visible in holotype; other specimens with pygidium composed of slender ventral cone and two anal cirri on dorsal quadrate pygidial structure. (For figures of anterior end, stylets and pygidium refer to *A. hanneloreae*, Watson Russell, 1998: 164, Fig. 2A–D).

Etymology.—The species name, *gathofi*, is named after Jerry Gathof who studied chrysopetalid material from the Gulf of Mexico and recognized "*Paleanotus* sp. A" (Gathof, 1984) as belonging to a new species.

Table 1. Comparison of characters between 14 worms with epitokous neurosetae in three species of *Arichlidon*. Key: E = entire specimen; NE = not entire specimen; M = distinct ova; S = small eggs in clusters (measurement of cluster); - see text; *planktonic specimens.

Species Locality	No. segments Mid-body width (mm)	Sex and details of eggs; M.S., -	Egg size (μ m)	No. epitokous setae per parapodium	Epitokous setae on segments
<i>A. gathofi</i>					
North Carolina, off Cape Lookout	28 NE, 1.04	Ovig. M	40–60	6–12	13–26
N.C., off Cape Lookout	29 E, 1.1	Ovig. M	30–55	6–12	11–26
N.C., off Cape Lookout	31 E, 0.96	Ovig. M	50–60	6–12	12–29
N.C., off Cape Lookout	25 E, 1.0	Ovig. M	40–58	3–6	12–20
N.C., off Beaufort	21 NE, 1.0	Ovig. M	58–64	12	11–21
Florida Keys *	19 NE, 0.7	-	-	10	11–19
Florida Keys *	22 E, 0.8	-	-	Not counted	11–20
Florida Keys *	27 E, 1.0	-	-	3–12	11–25
Bonaire, Lesser Antilles	37E, 1.2	Ovig. M	46–60	9–14	14–33
Cozumel Is., E. Mexico	16 NE, 0.94	Ovig. M	30–50	7	12–16
Galeta Is., Atlantic Panama	41 E, 1.0	Ovig. M	44	1–6	15–36
<i>A. reysyi</i>					
Madagascar, East Africa	38 NE, 1.3	Ovig. M	54–60	12	23–38
<i>A. hanneloreae</i>					
QLD, Australia	43 E, 1.4	Ovig. S	20–30	14	14–38
NT, Australia	8NE, 1.08	Ovig. S	40	5	All 8 (mid-body fragment)

Remarks.—The species *A. gathofi* comprises four forms that exhibit subtle change in the shape of the distal end of the main paleae. More rounded main paleae (Form 1) are seen from specimens from North Carolina to the Gulf of Mexico and the Greater Antilles (Bahamas, Dominican Republic, Puerto Rico) (Fig. 2.1). Slightly more square main paleae (Form 2) are seen from Cuba and Eastern Mexico (Fig. 2.2). Broader main paleae (Form 3) are found in material from the Lesser Antilles (Virgin Islands to Curacao) to South America (Venezuela, Surinam) (Fig. 2.3). The broadest main paleae (Form 4) are seen in individuals from the Atlantic coast of Panama (Fig. 2.4).

The differences in paleal shape in *A. gathofi* appear to reflect natural groups that may be related to the type of habitat and possibly temperature. The Australian species, *A. hanneloreae*, possesses more rounded main paleae in tropical coastal sedimented areas and broader paleae in tropical coral reef areas (Watson Russell, 1998; Fig. 6A–D). *A. gathofi* is seen to have more rounded paleae in sand/shell habitats off North Carolina and in the Gulf of Mexico and broader paleae in sea grass and coral reef habitats from the Lesser Antilles and eastern Panama.

Epitokous Neurosetae and Ovigerous States.—Watson Russell (1998; Fig. 3J) first reported on the presence of specialized compound neurosetae in two Australian individuals of *Arichlidon hanneloreae*.

In this paper, Table 1 provides data on 14 *Arichlidon* specimens belonging to three species with epitokous compound neurosetae. These setae originate from a position just below the neuroacicula, i.e., superior to and overlapping as well as ventral to the normal

set of neurosetal types (Figs. 4B, 5A). These fine setae are composed of slender shafts with internal horizontal striae, poorly chitinized joints (Fig. 5B) and slender spinigerous blades with entire tips. They are often the same length to a little longer than the normal neurosetae except in the case of the Florida specimens collected from the plankton (0.6 m off bottom) and one benthic specimen from Bonaire (Fig. 5A) all of which have very long shafts twice the length of the neurosetae extending out from the sides of the body. Epitokous setae number from 1–14 per parapodium and are present between the 10th anterior and 5th posterior segments in an entire body.

Of the 14 specimens, 11 are clearly ovigerous. Three planktonic epitokous specimens from Florida possessed enlarged, golden gonad tubes/ducts and empty looking neuropodia, suggesting gametes had been released. There were no recognizable gametes except for small rounded structures that may be small eggs or possibly sperm, although there was no recognizable flagellum. One additional planktonic worm from the Florida collection had small egg clusters measuring 20 μm with individual oocytes 2–4 μm , but no sign of epitokous setae.

Of the 11 benthic epitokous individuals, nine have mature ova with a granular surface measuring 30–64 μm . The two *A. hanneloreae* specimens possess small eggs sticking together in rounded cluster formations measuring 20–40 μm with individual oocytes inside measuring 4.5 μm (Watson Russell, 1998).

The majority of benthic females of *A. gathofi* with no specialized setae, the same segment size or larger than the material with epitokous setae, possesses eggs which are small and in clusters (the clusters measuring 20–30 μm ; oocytes measuring 2–4 μm). Of two ovigerous females from nearby sites off Panama City, the Gulf of Mexico, one has small distinct ova (20–27 μm) and the other small eggs in clusters (clusters 27 μm).

Another example is seen in two *A. reyssi* females from deeper waters of the Eastern Mediterranean where depth (respectively, 195 m and 199 m), entire body segment size (42 and 50), midbody width (1.2 mm and 1.4 mm) are all similar and the individuals, respectively, possess distinct ova (56–60 μm) (Fig. 1B) and small eggs in clusters (clusters 24–30 μm). Are the small eggs in clusters immature eggs that will grow into mature ova? Do individuals have the capacity to grow large and small viable ova? A histological study is needed to clarify this situation.

Divergence from the normal type most commonly relates to sexual maturity and the acquisition of epitokous swimming setae is seen in gametogenic adults from a number of other polychaete families (Schroeder and Hermans, 1975). Ovigerous and non-ovigerous chrysopetalid adults belonging to *Paleanotus* and *Treptopale* have been observed from the plankton (Watson Russell, 1987); *Arichlidon* is the only chrysopetalid genus to be recorded with epitokous compound spinigerous neurosetae collected from the benthos and plankton.

Compound epitokous setae with paleal articles are well known in the heteronereis state of the Nereididae. Gravier reported a namanereid possessing a few extra long falcigers at maturity and there is evidence that some dorvilleid species also have additional epitokous compound setae (Schroeder and Hermans, 1975). Glasby (1999) also has observed epitokal, slender compound spinigers in the Namanereidinae. Partly transformed males of the notophycine *Micronereis halei* possess epitokous compound spinigers which are progressively replaced by falcigers (Paxton, 1983). Data suggest the compound epitokous setae are attained at sexual maturity within *Arichlidon* species. It is likely that these setae assist

individuals to achieve stability and greater floating capabilities within the water column (note long shafts on planktonic specimens) when gametes are released.

Setal Variation.—The median fascicle, including the lateral-most median, is in the majority of material clearly shorter than the main paleal fascicle throughout the range of *A. gathofi*. In dissected specimens such as those of 29 segments from North Carolina and 34 segments from St. Lucia, the median fascicle is short in the anterior and mid-body segments (Figs. 1D,5C). In common with all individuals of *Arichlidon* spp. the median fascicle is particularly short in the posterior five segments.

In some material, however, the lateral-most median palea is nearly as long or equal in length to the main paleal fascicle. Four North Carolina ovigerous entire specimens, ranging from 25 to 31 segments with epitokous neurosetae, have this longer median palea with number of ribs at the top of the range (Fig. 5D). Median paleae numbers are high with a 29 segment entire specimen from this locality having eight median paleae occurring twice in mid-body segments. The main paleae are of the typical rounded shape but also have rib numbers at the top range as do the lateral paleae and subunit 1 palea. Similar examples of this variation are seen infrequently in material from the Gulf of Mexico, Panama (Fig. 5E) and the Antilles among similar sized specimens.

While larger mature *A. gathofi* specimens may possess higher numbers of paleae and ribs and a longer median palea than the norm, these characters can not be categorically linked to ovigerous states or possession of epitokous neurosetae. The lateral-most median palea in mid-body segments was found to vary in length from typically shorter to the same length in the same individual in a 44 segment specimen from Curaçao with small eggs. Planktonic *A. gathofi* specimens collected from Florida, with epitokous spinigers had the typical shorter median fascicle, rounded type main and mid range numbers of paleae and ribs.

A similar situation was found within the Australian range of *A. hanneloreae*, where most of the material had a similar range of rib numbers with very occasional higher rib counts and an overall similar length of the lateral-most median palea with the longer form occurring in some instances. *Arichlidon gathofi* (Atlantic) is most similar to *A. hanneloreae* (Indo Pacific) with few yet consistently different details of the subunit one main palea separating them. All four *Arichlidon* species possess similar body types, anterior ends, pygidia and neurosetal types. Species differences are only discernible between paleal notosetal shapes and lengths and their position in the body. As mentioned by Watson Russell (1998) the morphological characters at the species level in *Arichlidon* are very conservative.

Comparison with A. reyssi (Katzmann, Laubier and Ramos, 1974).—Watson Russell (1998) redescribed the Adriatic species *Bhawania reyssi* and assigned it to the new genus *Arichlidon*. The distinguishing character of *A. reyssi*, the long lateral-most median palea, is evident in mid-body segments in the majority of juvenile and adult material examined and separates it from *A. gathofi* (Fig. 1A). In a mature dissected individual of 42 segments this character is clearly present from setiger 5–35 and in the 34 segment holotype from setiger 5–30. The long lateral-most median palea possesses a consistently slightly higher number of ribs although overall median paleae numbers are slightly lower than those seen in *gathofi* (Table 2).

The distinguishing character of *A. gathofi*, the relatively short lateral-most median palea, is seen in the mid to posterior body of postlarval and juvenile specimens from North Carolina of 7–14 segments. In notopodia 4 of 6 segment planktonic larvae of *A. reyssi*,

Table 2. Comparison of *Arichlidon gathofi* and *A. reyssi* setal counts.

Species	No. lateral paleae No. ribs	No. ribs of main paleae No. ribs	No. median paleae. No. ribs	Subunit 1 palea details	Subunit 2 palea details	Lateral most median palea details
<i>A. gathofi</i>	4–7 7–15 (17)	13–19 (20)	4–6 (8) 8–13 (17)	15–19 ribs and 3–5 raised; posterior half body	8–10 ribs; posterior 1/2–2/3 of body	12–15 (17) ribs; 2/3 to same length as main fascicle
<i>A. reyssi</i>	4–6 6–17	14–19	3–5 (6) 9–17 (18)	16–18 ribs and 5 raised; posterior half body	7–9 ribs; posterior half of body	15–17 (18) ribs; same length to longer than main fascicle

from the French Atlantic coast, the long lateral-most median palea is present. A detailed description of larval and juvenile setal forms in the two species will be presented in another paper.

Habitat.—*A. gathofi* n. sp. is recorded from sand and shell habitats in south eastern American localities; from silty-fine to coarse sands in the Gulf of Mexico (Gathof, 1984); from sponge, coral and rock washings, from a *Pinctada* bivalve and submerged timbers from a wreck near a swamp, in the Greater and Lesser Antilles and southeastern South America; from *Avrainvillea* zone and *Thalassia* beds from Eastern Mexico and Panama (Caribbean). Depth ranges from intertidal to 106 m.

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